

REMARKS

The application has been amended and is believed to be in condition for allowance.

Claim 25 has been amended to include prior claim 27. Claim 36 has been amended to include claim 39. No new matter is entered by way of these amendments.

The IDS previously submitted is re-submitted. Should there be any problem with this IDS, it is respectfully requested that the undersigned attorney be contacted by telephone and advised of this problem.

Claims 25-28, 30, 33-39, 41, and 43-46 were rejected as anticipated by KUSUNOSE, 5,426,503.

Claims 29, 31, 32, 40 and 42 were rejected as obvious in further via of LAPUCCI, 5,192,982.

Both independent claims now include the recitations concerning material addition or removal previously found in dependent claims, wherein an optical measurement is carried out.

In the case of material addition or removal, it is difficult, due to vibrations, to provide a stable reference beam for optical phase analysis (specification page 2, lines 1-5). Also, for material addition or removal, it is difficult to produce real time, onsite measurement. Traditional optical measurement in these conditions typically involves at least shutting off of the machine, and often times dismounting of the

workpiece in order to measure the progress of the material addition and/or removal.

The invention addresses these problems. In particular, since the optical measurement method involves a phase unwrapping method wherein the phase variation is followed to be kept within 2π , it is possible to provide a real time nanometer accurate measurement and control of the material removal/addition process.

KUSUNOSE discusses an optical measurement system involving splitting a beam in a reference beam and a measurement beam. The system is discussed for scanning transitions in an optical phase mask. The presupposition is that the measured phase transitions will be within the scanning wavelength order to be able to accurately measure the transition.

However, KUSUNOSE does not discuss the material adding or removal aspects referenced in the application and embodied in the current independent claim. Contrary to the statement on page 4 of the Official Action, last paragraph, it cannot be seen how the summary of the invention of KUSUNOSE would teach the skilled person to use the measurement method in a changing form of the measurement area due to material addition or removal.

In contrast, KUSUNOSE relies on a highly well-defined contour of a phase mask, wherein the only issue is to obtain the amount of phase shift of a phase mask - not, as does the invention, to determine a contour variation due to a material addition or removal process.

Accordingly, KUSUNOSE neither anticipates nor renders obvious the claimed invention.

LAPUCCI also is not related to material addition or removal and does not discuss the aspects of varying the phase of the split beams relative to each other, such that the differential phase is kept within the range of 2 pi. Accordingly, LAPUCCI is not relevant for the present claims.

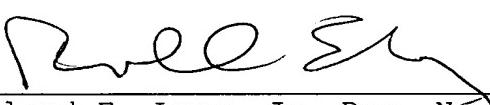
Accordingly, reconsideration and allowance of all the claims are respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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REL/lk

Appendix:

The Appendix includes the following item:

- IDS filed March 11, 2005